

**CAHPS HOSPITAL SURVEY:  
SURVEY ADMINISTRATION INSTRUCTIONS**

Note: These instructions have been extracted from the Centers for Medicare & Medicaid Services’ *HCAHPS Quality Assurance Guidelines*. For access to that document, please go to [www.hcahpsonline.org](http://www.hcahpsonline.org) or contact [hospitalcahps@cms.hhs.gov](mailto:hospitalcahps@cms.hhs.gov).

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# **SAMPLING PROTOCOL**

## **Overview**

The CAHPS Hospital Survey Sampling Protocol is designed to capture accurate and complete information on care from the patient's perspective. Within general acute care hospitals, HCAHPS ratings are designed to reflect the care received by patients of all payers – not just Medicare patients. Therefore, patients of all payer types are eligible for sampling.

The CAHPS Hospital Survey Sampling Protocol promotes the following:

- Standardized administration of the HCAHPS survey instrument by hospitals and survey vendors
- Comparability of resulting data across all participating hospitals

The basic sampling procedure for HCAHPS requires drawing a random sample of eligible monthly discharges. Data will be collected from patients in each monthly sample, and will be aggregated to create a rolling 12-month data file for each hospital.

## **Eligible Population Criteria**

The following are the eligible population criteria for HCAHPS:

- 18 years or older at the time of admission
- Admission includes at least one overnight stay in the hospital
- Non-psychiatric principal diagnosis at discharge
- Alive at the time of discharge
- Not eliminated from participation based on state regulations

## **Exclusions**

Only patients who meet the eligible population criteria described in the previous section should be included in HCAHPS sampling. Certain patient groups are excluded. Pediatric patients (under age 18 at admission) and psychiatric patients are excluded because the current HCAHPS instrument is not designed to address the unique situation of pediatric patients and their families, or the behavioral health issues pertinent to psychiatric patients. Patients who did not have an overnight stay are excluded because their experiences and interactions with the staff during the hospital visit may be limited (e.g., patients who were admitted for a short period of time for purely observational purposes, and patients admitted for same day diagnostic tests as part of outpatient care). Patients who die during their hospital stay are excluded out of respect for the sensitivities of the family members of these patients. It is important to emphasize that some states have further restrictions on patients who may be contacted after discharge. It is the responsibility of the hospitals/survey vendors to exclude other patients as required by law or regulation in the state in which they operate.

Patients that fall into the excluded categories should be removed from the sampling frame before the random sample is selected. Patients for whom information is missing on an exclusion criterion should not be removed from the sampling frame. The hospital/survey vendor must attempt to uncover any missing exclusion criteria variables for patients in the random sample. If, when discovered, this information indicates that a patient should have been excluded from the sampling frame, that patient will be treated as ineligible in response rate calculations. In other words, patients for whom an exclusion criteria variable (or variables) is missing should be included in the sampling frame and should be surveyed if selected for the random sample.

## Survey Timing

Sampled patients should be surveyed between 48 hours and six weeks post discharge, regardless of mode of survey administration. Data collection should be closed out no later than six weeks following the start of data collection for a surveyed patient. For additional details on survey timing and administration, please refer to the Mail Only, Telephone Only, Mixed Mode, and IVR Survey Administration sections included in these Quality Assurance Guidelines.

## Sampling Procedure

The basic sampling procedure for HCAHPS entails drawing a random sample of eligible discharges on a monthly basis. After the initial reporting period, the hospital-level ratings will be updated on a quarterly basis utilizing the most recent 12 months worth of data.

*The initial public reporting period will include only three quarters of data. The first three quarters of data are being used to facilitate early reporting of HCAHPS results on <http://www.hospitalcompare.hhs.gov>. For the first three quarters of data collection, hospitals will be asked to sample additional patients monthly to produce enough data to publicly report hospital ratings.*

To simplify sampling, the hospital/survey vendor will draw a simple random sample each month from the sampling frame of eligible discharges as noted above. Sampling can be done at one time after the end of the month or continuously throughout the month as long as a simple random sample is generated from the entire month (the hospital/survey vendor can choose what works best with its current survey activities).

As noted above, monthly data will be aggregated to produce a rolling 12-month (initially, 9-month) data file that will be used to produce hospital-level ratings for the HCAHPS measure. A target for the statistical precision of these ratings is based on a reliability criterion. Higher reliability means a higher ratio of “signal to noise” in the data. The reliability target for the global ratings and most composites is 0.8 or higher. Based on this target, it will be necessary for each hospital to obtain 300 completed HCAHPS questionnaires (completes) over the entire reporting period. Small hospitals that are unable to reach the target of 300 completes in a given reporting period should sample all eligible discharges and attempt to obtain as many completes as possible.

In order to calculate the number of monthly discharges needed to reach this target, it is necessary to take into account the proportion of sampled patients expected to complete the survey. Not all

sampled patients who are contacted to complete the survey will actually do so. The number of discharges needed to obtain 300 completed surveys is a function of the proportion of sampled patients who turn out to be ineligible for the survey, and the survey response rate among eligible respondents. The calculation of the monthly discharges needed to produce 300 completes in a reporting period can be summarized as follows:

**Step 1:** Identify the number of completed surveys needed over the reporting period (9 or 12 months)

$C$  = number of completed surveys needed = 300

**Step 2:** Estimate the proportion of patients expected to complete the survey  
Let:

$I$  = the expected proportion of discharged patients who are ineligible

$R$  = the expected survey response rate among eligible respondents

$P$  = proportion of discharged patients expected to complete the survey

The proportion of patients expected to complete the survey ( $P$ ) is

$$P = (1 - I) \times R$$

The following is an example of how to calculate the proportion of patients expected to complete the survey. It is important to note that this is just an example. The expected proportion of discharged patients that are ineligible and the expected response rate can differ by hospital.

Based on results from the National Hospital Discharge Survey, it is estimated that, on average, 17% of discharged patients will be ineligible for the survey. Based on results from previous studies using HCAHPS, it is estimated that, on average, 40% of eligible patients will complete the survey. Please note: The parameters  $I$  and  $R$  used here are estimates. Participating hospitals should estimate  $I$  and  $R$ , and the resulting number of discharges needed over the reporting period, based on their own experience using HCAHPS. However, until this experience is gained, we suggest that  $I = 0.17$  and  $R = 0.40$  are suitable estimates.

Therefore, the proportion of discharged patients expected to complete the survey is:

$$P = (1 - I) \times R = (1 - .17) \times .40 = .33$$

**Step 3:** Calculate the number of discharges needed to produce 300 completed surveys over the reporting period:

**Example 1:** Initial reporting period (nine months)

$N_9$  = Number of discharges to be sampled over 9 month reporting period =  
 $C / P = 300 / .33 = 909$

$N_1$  = Number of discharges to be sampled each month in a 9 month reporting period =  
 $N_9 / 9 = 909 / 9 = 101$

**Example 2:** Subsequent reporting periods (12 months)

$N_{12}$  = Number of discharges to be sampled over 12 month reporting period =  
 $C / P = 300 / .33 = 909$

$N_1$  = Number of discharges to be sampled each month in a 12 month reporting period =  
 $N_{12} / 12 = 909 / 12 = 76$

Using our assumptions of a 40 percent response rate and a 17 percent ineligibility rate, 909 discharges would be needed to be sampled over the entire reporting period. Some smaller hospitals will have fewer than 909 discharges during the reporting period. In such cases, the hospital should sample all eligible discharges and attempt to obtain as many completes as possible. As long as the hospital obtains at least 100 completes, the hospital's ratings will be reported, but the lower precision of the ratings derived from less than 300 completed surveys will be noted in the public reporting. The hospital's response rates will also be reported. Hospitals that fail to generate 100 completed surveys during the reporting period will be excluded from public reporting.

## DRG Category Classifications

Each patient that is included in the HCAHPS survey administration will be assigned to one of three categories for patient-mix adjustment purposes: (1) Maternity Care; (2) Medical; or (3) Surgical. The assignment to each of these categories should be based on the patient's Diagnosis-Related Group (DRG) at discharge. Patients who do not fit into one of these categories should receive a designation of "Other" unless the DRG is excluded. Any patient whose DRG is not available at the time that the sample frame file is pulled should be designated as either Maternity Care, Medical, or Surgical when the patient's DRG becomes available.

The table of DRG Codes and Categories in this section can be utilized to categorize patients into one of these three major categories. The information in this table is only valid through March 31, 2006, as the Federal Register Notice publishes updated DRG information two times a year, on April 1 and October 1. Please visit <http://www.hcahpsonline.org> for the most current information. It is essential that the DRG information be updated at these two times yearly before pulling the sample frame file.

## Survey Sample Frame Creation

Each hospital participating in HCAHPS is responsible for generating complete, accurate and valid sample frame data files each month that contain information on all patients who meet the eligible population criteria. The sampling frame for a particular month should include all eligible hospital discharges between the first and last days of the measurement month (e.g., for the month of January, any qualifying discharges between January 1 and January 31).

An example of a sample frame survey file layout is included in *Appendix A*. This is only an example; hospitals/survey vendors are not required to use this layout for their sample frame file. However, including the elements from this specification will ensure that all of the required sample file data elements are available at the time the survey data are submitted to CMS. Hospitals/Survey vendors will utilize the information derived from the sample frame to administer the survey. The patient-identifying information within the sample frame will not be a part of the final data submitted to CMS, nor will any other Protected Health Information (PHI).

To reduce respondent burden, the hospital/survey vendor is required to deduplicate the sample frame so that only one adult member per household is included in the HCAHPS sample. Deduplication should be performed within each month, utilizing address information and the patient's medical record number (or other unique identifier).

## Final Survey Sample

As previously described in the Sampling Procedure section, the actual number of patients surveyed each month should reflect the goal of attaining 300 completed surveys over a 12-month period (or 300 completes in the first nine months of the HCAHPS survey). For ease of sampling, CMS assumes that hospitals will sample an equal number of discharges each month. The actual number of patients sampled should be based on the anticipated response rate and ineligibility rate.

The final sample drawn each month should reflect a simple *random* sample of patients from the survey sample frame. CMS recognizes that some small hospitals may not be able to reach the target of 300 completes in a given reporting period. In such cases, hospitals should sample *all* eligible discharges (that is, not conduct the simple random sampling) and attempt to obtain as many completes as possible. As long as hospitals obtain at least **100** completes, their ratings will be publicly reported.<sup>1</sup>

## Exceptions and Variations

### Stratified Sampling

Any hospital/survey vendor who chooses to use stratified sampling must review the Exceptions Process Guidelines, then complete and submit the Exceptions Process Request Form. If the hospital is drawing a stratified sample, it will be asked to indicate this in the file layout and provide the following additional information for each record in the data file: 1) the total number of patients within the patient's unit who were surveyed **in this month**, and 2) the total number of patients in this patient's unit who were eligible for surveying **in this month**.

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<sup>1</sup> The lower precision of those ratings derived from less than 300 completes will be noted.

If, for certain units, fewer patients are being sampled than would have been sampled under a simple random sampling scheme, the hospital should sample enough additional patients from these units to achieve the number that would have been sampled under a simple random sampling scheme.

**Proportionate Monthly Sampling**

For ease of sampling, CMS assumes that hospitals will sample an equal number of discharges each month. Hospitals have the option to allocate the yearly sample proportionately to each month according to the expected proportional distribution of total eligible discharges over the 12-month period. The monthly data will be weighted appropriately by CMS to account for any differences in the monthly sampling rates. Additional information is provided in the Data Submission and Reporting section of these Quality Assurance Guidelines.

Please note that other sampling schemes are possible. The hospital/survey vendor should contact the Arizona QIO, HSAG, with questions at: [hcahps@azqio.sdps.org](mailto:hcahps@azqio.sdps.org) or call 1-888-884-4007.



## DRG Classifications

The following table provides the current list of DRG categories and service line classifications. Note: Hospitals that are unable to obtain DRG information for their patients can use another method to arrive at the appropriate classifications. These hospitals will need to complete and submit the Exceptions Process Request Form. (*See Appendix N*).

### Table of DRG Codes and Categories

CAHPS Hospital Survey Sampling Protocol List of DRG Categories <sup>2</sup> for HCAHPS	
Category	DRGs
Maternity Care	370 – 375 ( <i>Please note that in the Federal Register Notice these codes are classified as either medical or surgical. However for purposes of this project, they are to be classified as Maternity Care.</i> )
Medical	9 - 25, 27 - 32, 34 - 35, 43 - 47, 64 - 69, 71 - 73, 78 - 80, 82 - 90, 92 - 97, 99 - 102, 121 - 136, 138 - 145, 172 - 183, 185, 187 - 189, 202 - 208, 235 - 251, 253 - 254, 256, 271 - 278, 280 - 281, 283 - 284, 294 - 297, 299 - 301, 316 - 321, 323 - 326, 328 - 329, 331 - 332, 346 - 352, 366 - 369, 376, 378 - 380, 382 - 384, 395, 397 - 399, 403 - 404, 409 - 414, 416, 418 - 421, 423, 434 - 437, 444 - 445, 447, 449 - 450, 452 - 455, 457, 460, 462 - 467, 475, 487, 489 - 490, 492, 505, 508 - 511, 524
Surgical	1 - 2, 4 - 8, 36 - 40, 42, 49 - 53, 55 - 57, 59, 61 - 63, 75 - 77, 103 - 120, 146 - 155, 157 - 162, 164 - 171, 191 - 201, 209 - 211, 213 - 219, 221 - 234, 257 - 270, 285 - 293, 302 - 313, 315, 334 - 339, 341 - 342, 344 - 345, 353 - 365, 377, 381, 392, 394, 400 - 402, 406 - 408, 415, 439 - 443, 458 - 459, 461, 471 - 474, 476 - 486, 488, 491, 493 - 504, 506 - 507, 512 - 520, 527 - 550
Other	468 - 470
Exclusions	3, 26, 33, 41, 48, 54, 58, 60, 70, 74, 81, 91, 98, 137, 156, 163, 184, 186, 190, 212, 220, 252, 255, 279, 282, 298, 314, 322, 327, 330, 333, 340, 343, 385 - 391, 393, 396, 405, 417, 422, 424 - 433, 434 - 438, 446, 448, 451, 521 - 523, 526

<sup>2</sup> Based on the DRG list published in the August 12, 2005 Federal Register Notice (Volume 70, No. 155).



## **MAIL ONLY SURVEY ADMINISTRATION**

### **Overview**

This section describes guidelines for the mail only mode of survey administration. The survey protocol is designed to achieve, on average, a 40 percent response rate.

Data collection for sampled discharged patients should commence between 48 hours and six weeks after discharge. Please note: Patients must not be given the survey while they are still in the hospital. Hospitals/Survey vendors will send sampled patients a first questionnaire with a cover letter. A second questionnaire with a reminder/thank you cover letter must be sent to all nonrespondents to the first questionnaire. Data collection should be closed out for a particular respondent by six weeks following the mailing of the first questionnaire. Note: No proxy respondents are allowed.

The basic tasks and timing for conducting the HCAHPS survey using the mail only mode of survey administration are summarized below.

<b>Mail Only Survey Implementation</b>
First questionnaire sent with cover letter to sampled patient(s) between 48 hours and six weeks after discharge.
Second questionnaire sent with reminder/thank you cover letter to nonrespondent(s) approximately 21 days after the first questionnaire mailing.
Complete data collection within 21 days after the second questionnaire mailing.
Submit final data files by the end of the quarter.

Hospitals/Survey vendors must make every reasonable effort to maximize the final survey response rates and to pursue contacts with potential respondents until the final data collection protocol is completed.

### **Production of Questionnaire and Materials**

Hospitals/Survey vendors will be provided with the HCAHPS questionnaire in English and Spanish and sample cover letters in English. Hospitals/Survey vendors should adhere to the following specifications for questionnaire and letter formatting and the production of mail materials.

### **Questionnaire**

The HCAHPS questionnaire contains 27 questions: questions 1-22 are referred to as the core HCAHPS questions, and questions 23-27 are the “About You” HCAHPS questions. Hospitals/Survey vendors may use the HCAHPS questionnaire either as a stand-alone survey, integrated with the hospital’s existing survey, or combined with hospital-specific supplemental questions. The core HCAHPS questions (Questions 1-22) must be placed at the beginning of the survey. The About You HCAHPS questions (Questions 23-27) and hospital-specific supplemental questions can be added anywhere after the core HCAHPS questions (Questions 1-22).

Hospitals/Survey vendors have some flexibility in formatting the HCAHPS questionnaire following the guidelines described below:

- Question and answer category wording must not be changed, nor is any change permitted to the order of core HCAHPS questions (Questions 1-22).
- Questions and answer categories must remain together in the same columns and on the same pages.
- Unique identifiers are placed on the first page of the survey. The respondent's name does not appear on the survey.

Hospitals/Survey vendors should consider the following recommendations in formatting the HCAHPS questionnaire:

- Minimum font size (10 point) readable font such as Arial.
- Margins are wide (at least 3/4 inch) and the survey has sufficient white space to enhance its readability.

Hospitals that choose to use their existing survey have three options: 1) integrate the hospital's existing survey into the HCAHPS survey using one consistent format; 2) have a separate HCAHPS survey and hospital survey in the same mailing; or 3) send two separate mailings—one with the HCAHPS survey and another with the hospital-specific survey.

### **Supplemental Questions**

Hospitals/Survey vendors can add a reasonable number of hospital-specific supplemental questions to the HCAHPS survey and can include a hospital's existing survey following the guidelines described below:

- Hospital-specific supplemental questions or a hospital's existing survey are added after the core HCAHPS questions (Questions 1-22). The About You section (Questions 23-27) of the HCAHPS survey can be added anywhere after the core HCAHPS questions (Questions 1-22).
- Phrases can be added to transition from the HCAHPS questions to the hospital-specific supplemental questions. An example of such phrasing is as follows:

*“Now we would like to gather some additional detail on topics we have asked you about before. These items use a somewhat different way of asking for your response since they are getting at a little different way of thinking about the topics.”*

Hospitals/Survey vendors should consider avoiding the following types of hospital-specific supplemental questions:

- Question(s) that poses burden to the respondent (e.g., number, length, and complexity of supplemental questions).
- Question(s) that has potential impact on responses to the HCAHPS survey.

- Question(s) that causes a person to terminate the survey (e.g., items that ask about sensitive medical or personal topics).
- Question(s) that jeopardize respondent confidentiality (e.g., items that ask for the respondent's social security number).

### **Cover Letter**

Hospitals/Survey vendors may adapt the sample cover letters provided, or compose their own by following the guidelines described below:

- Cover letter contains the name and address of the sampled respondent. "To Whom It May Concern" is not an acceptable salutation.
- Cover letter is not attached to the survey to avoid compromising confidentiality.
- Customization is acceptable, but must include language indicating the purpose of the survey, that "Questions 1-22 in the enclosed survey are part of a national initiative by the *United States Department of Health and Human Services to measure the quality of care in hospitals,*" *an explanation that participation is voluntary, the hospital name, the discharge date, and a statement that the patient's health benefits will not be affected by participation in the survey.*

### **Mailing of Materials**

Hospitals/Survey vendors mail materials follow the guidelines described below:

- Self-addressed, stamped business return envelopes are enclosed in the survey envelope with the cover letter and questionnaire.
- It is suggested that all mailings be sent with first class postage or indicia to ensure delivery in a timely manner and higher response rates because first class mail is more likely to be opened.

### **Data Receipt**

Survey data should be recorded in a timely manner after the hospital/survey vendor receives returned questionnaires. Hospitals/Survey vendors may use key entry or scanning to record survey data. Each process is described below:

#### **Key Entry**

Hospitals'/Survey vendors' key entry processes should incorporate the following features:

- *Unique identifier verification system:* The survey management system performs a check to ensure that the returned survey has not already been entered in the survey management system.
- *Valid range checks:* The data entry system identifies entries that are invalid or out-of-range responses.
- *Validation:* Key entered data are checked a second time by different staff to identify any discrepancies between two entries. A supervisor should reconcile any errors.

## Scanning

Hospitals'/Survey vendors' scanning software should accommodate the following:

- *Unique record verification:* The survey management system performs a check to ensure that the returned survey has not already been entered in the survey management system.
- *Valid range checks:* The software identifies invalid or out-of-range responses.

Whether the hospitals/survey vendors employ scanning or key-entry of mail questionnaires, hospitals/survey vendors should use the following decision rules that govern the appropriate actions to take to resolve common ambiguous situations. Hospitals/Survey vendors should follow these guidelines strictly to ensure standardization of data entry across hospitals.

- If a mark falls between two choices and is obviously closer to one choice than another, select the choice to which the mark is closest.
- If a mark falls equidistant between two choices, code the value for the item as “missing.”
- Hospitals/Survey vendors have the option of contacting the patient to ascertain the response but may not impute a response.
- If a value is missing, code it as “missing.” Hospitals/Survey vendors may contact the patient to ascertain the response but may not impute a response.
- When more than one response choice is marked, code the value as “missing” (except for item 26 in the survey).

## Quality Control Guidelines

The following guidelines are strongly suggested to avoid survey mail administration errors and to assure the deliverability of questionnaires:

- Address information is validated to ensure addresses are accurate, formatted accurately, and current. This can be accomplished through use of the National Change of Address (NCOA) and the United States Postal Service (USPS) CASS Certified Zip+4 software. Other means are also available to update addresses for accurate mailings, such as:
  - Commercial software
  - Internet search engines
- Interval checking of printed mailing pieces for:
  - Fading, smearing, and misalignment of printed materials
  - Appropriate survey contents, accurate address information, and proper postage in the survey sample packet production
  - Assurance that all printed materials in a mailing envelope have the same unique identifier
  - Inclusion of all members of a sample in a mailing

- Seeded mailings–All mailings are sent to designated project staff in addition to the sample to check for timeliness of delivery, accuracy of address, and accuracy of the content of the mailing.

Hospitals/Survey vendors are responsible for the quality of work performed by any subcontractors such as printers or fulfillment houses. Hospital/survey vendor staff are on-site for printing of survey materials and mail production to ensure that interval checking of printed mailing pieces is carried out.





## **TELEPHONE ONLY SURVEY ADMINISTRATION**

### **Overview**

This section describes guidelines for the telephone only mode of survey administration. The survey protocol is designed to achieve, on average, a 40 percent response rate.

Data collection for sampled discharged patients should be initiated anywhere between 48 hours and six weeks after discharge and should be closed out for a particular respondent by six weeks following the first call attempt. Telephone calls are made anywhere between the hours of 9 AM and 9 PM respondent time. Note: No proxy respondents are allowed.

The basic tasks and timing for conducting the HCAHPS survey using the telephone only mode of survey administration are summarized below.

<b>Telephone Only Survey Implementation</b>
Initiate systematic contact to sampled patient(s) between 48 hours and six weeks after discharge.
Complete telephone sequence (completed interviews obtained or maximum calls attempted for nonrespondents) so that at least five telephone calls are attempted at different times of day, on different days of the week, and in different weeks within 42 days after initiation.
Submit final data files by the end of the quarter.

Hospitals/Survey vendors should make every reasonable effort to ensure optimal telephone response rates, such as thoroughly familiarizing interviewers with the study purpose, carefully supervising interviewers, retraining those interviewers having difficulty enlisting cooperation, and re-contacting reluctant respondents with different interviewers at different times.

### **Telephone Interviewing Systems**

#### **Questionnaire**

The HCAHPS questionnaire contains 27 questions: questions 1-22 are referred to as the core HCAHPS questions, and questions 23-27 are the “About You” HCAHPS questions. Hospitals/Survey vendors may use the HCAHPS questionnaire as a stand-alone survey, integrated with the hospital’s existing survey, or combined with hospital-specific supplemental questions. The core HCAHPS questions (Questions 1-22) must be placed at the beginning of the survey. The About You HCAHPS questions (Questions 23-27) and hospital-specific supplemental questions can be added anywhere after the core HCAHPS questions (Questions 1-22).

#### **Telephone Script**

Hospitals/Survey vendors will be provided with a standardized telephone script for the HCAHPS portion of the survey following the guidelines described below:

- Question and answer category wording is not changed nor is the order of questions for the HCAHPS core questions (Questions 1-22).

- The hospital/survey vendor is responsible for programming the scripts and specifications into its computerized telephone interviewing system interviewing software or some alternative system.

### Supplemental Questions

Hospitals/Survey vendors may add a reasonable number of hospital-specific supplemental questions to the HCAHPS survey and can include a hospital's existing survey following the guidelines described below:

- Hospital-specific supplemental questions or a hospital's existing survey are added after the core HCAHPS questions (Questions 1-22). The About You section (Questions 23-27) of the HCAHPS survey can be added anywhere after the core HCAHPS questions (Questions 1-22).
- Phrases can be added to transition from the HCAHPS questions to the hospital-specific supplemental questions. An example of such phrasing is as follows:

*“Now we would like to gather some additional detail on topics we have asked you about before. These items use a somewhat different way of asking for your response since they are getting at a little different way of thinking about the topics.”*

- Standardized telephone script is developed and used by hospital/survey vendor for hospital's existing survey or hospital-specific supplemental questions.

Hospitals/Survey vendors should consider avoiding the following types of hospital-specific supplemental questions:

- Question(s) that pose a burden to the respondent (e.g., number, length, and complexity of supplemental questions).
- Question(s) that has potential impact on responses to the HCAHPS survey.
- Question(s) that causes a person to terminate the survey (e.g., items that ask about sensitive medical or personal topics).
- Question(s) that jeopardizes respondent confidentiality (e.g., items that ask for the respondent's social security number).

### Interviewing Systems

Telephone survey interviewing should be conducted using a computerized telephone software system or a manual (paper and pencil) data entry system. Hospitals/Survey vendors using a computerized system should program the standardized script and specifications into the telephone system. Regardless of patient response, all questions in the telephone interview must be recorded by the interviewer.

Two methods exist for telephone interviewing:

1. Computerized telephone interviewing system uses standardized scripts and design specifications. The hospital/survey vendor is responsible for programming the scripts and specifications into its computerized telephone interviewing software.
2. Manual data collection involves an interviewer who conducts the interview over the phone and records answers by pen or pencil on a paper survey form. Standardized scripts and design specifications should be used in manual data entry.

## Telephone Attempts

Sample respondents should be called a total of five times unless the respondent completes the survey or explicitly refuses to complete the survey. Hospitals/Survey vendors should follow these guidelines to reach respondents:

- Telephone attempts are made at various times of the day, on different days of the week, and in different weeks to maximize the probability that the survey vendor will contact the respondent.
- Respondents who call back after an initial contact can be scheduled for interviews or forwarded to an available interviewer.
- Interviewers should not leave messages on answering machines since this could violate a respondent's privacy.
- If, on the fifth attempt, the respondent requests to schedule an appointment to complete the survey, it is permissible to schedule that appointment and call the respondent back. If on the call back at the scheduled time, no connection with the respondent is made, then no further attempts should be made.

A telephone attempt consists of one of the following:

- The telephone rings six times with no answer.
- Interviewer gets a busy signal. When systems permit, attempts should be made to re-contact respondents with a busy signal up to three times at 20-minute intervals. This counts as one phone attempt.
- Interviewer reaches a household member and is told that the respondent is not available to come to the phone. The interviewer should not leave a message.
- Interviewer reaches the respondent but is asked to call back at a more convenient time. The interviewer should not leave a message.

Hospitals/Survey vendors should take the following steps to contact difficult to reach respondents:

- If the respondent's number is wrong, it is important to make every effort to find the correct number. If the person answering the phone knows how to reach the respondent, the new information should be used.
- If the respondent is away temporarily, he or she should be contacted upon return, provided that it is within the data collection time period.

- If the respondent does not speak the language the survey is being administered in, the interviewer should thank the respondent for his or her time and terminate the interview.
- If the respondent is temporarily ill, the interviewer should re-contact the respondent to see if there has been a recovery before the end of data collection.
- If the respondent is unavailable for any reason, the interviewer should not conduct the interview with a proxy.

## Obtaining Telephone Numbers

Hospitals/Survey vendors should obtain telephone numbers from patient discharge records. There are various options for how to update the telephone numbers, if necessary. Hospitals/Survey vendors may have different mechanisms or strategies for obtaining correct telephone numbers, and are free to pursue their preferred approach. Potential methods for obtaining accurate phone numbers include:

- *Telematch software*: Survey vendors may elect to run commercially available software against sample files just after uploading to their survey management systems
- *Commercial software, Internet directories, Directory assistance*

## Data Receipt

Survey data should be recorded in a timely manner after the hospital/survey vendor completes surveys in the phone protocol. Hospitals/Survey vendors should link survey response data received from the interviewing system to the survey management system, regardless of which interviewing system is employed.

1. Computerized Telephone Interviewing System—Hospitals'/Survey vendors' computerized telephone interviewing system should be electronically linked to the survey management system so that responses obtained from computerized telephone interviewing system are automatically added to the survey management system.
2. Manual Data Collection—Hospitals/Survey vendors using manual data entry (paper questionnaires) to collect survey data over the phone should follow the guidelines below for linking survey responses to the survey management system. Key entry or scanning may be used:
  - Key Entry
    - *Unique record verification*: The survey management system performs a check to ensure that the respondent has not already been entered in the survey management system through the computerized telephone interviewing system.
    - *Validation*: Key entered data are checked a second time by different staff to identify any discrepancies between two entries. A supervisor should reconcile any errors.
  - Scanning

- *Unique record verification:* The survey management system performs a check to ensure that the respondent has not already been entered in the survey management system through the computerized telephone interviewing system.

## **Quality Control Guidelines**

Hospitals/Survey vendors should employ guidelines in proper interviewer training, monitoring, and oversight, as described below.

### **Interviewer Training**

Consistent monitoring of interviewers' work is essential to assure standardized and accurate results. Properly trained and supervised interviewers ensure that standardized, nondirective interviews are conducted.

The interviewers conducting the telephone survey must be trained before beginning interviewing. Training must ensure that interviewers are reading questions as worded in the script, using non-directive probes, and are maintaining a neutral and professional relationship with the respondent.

### **Telephone Monitoring and Oversight**

A telephone interviewer monitoring and evaluation program featuring silent monitoring should be implemented during the telephone phase of the protocol. Hospitals/Survey vendors should monitor at least ten percent of all interviews through silent monitoring of interviewers using the computerized telephone interviewing system software or an alternative system. For paper and pencil interviewers, supervisors should observe at least ten percent of all interviews where silent monitoring is not an option.

Additionally, supervisors should provide feedback to interviewers about their performance and work on any areas for improvement. Feedback should be provided to interviewers as soon as possible following a monitoring session.

Staff found to be consistently unable to follow the script verbatim, employ proper probes, remain objective and courteous, be understood, or operate the computer competently should be identified and retrained or replaced.



## **MIXED MODE SURVEY ADMINISTRATION**

### **Overview**

This section describes guidelines for the mixed mode of survey administration, which is a combination of an initial mailing of the survey with telephone follow up. The survey protocol is designed to achieve, on average, a 40 percent response rate.

As in all other modes, data collection for sampled discharged patients should be initiated anywhere between 48 hours and six weeks after discharge. Hospitals/Survey vendors should send sampled patient(s) a questionnaire with a cover letter, then conduct at least five telephone calls to nonrespondents of the mailed questionnaire. Telephone calls are made between the hours of 9 AM and 9 PM, respondent time. Data collection should be closed out for a particular respondent by six weeks following the mailing of the first questionnaire. Note: No proxy respondents are allowed.

The basic tasks and timing for conducting the HCAHPS survey using the mixed mode of survey administration are summarized below.

<b>Mixed Mode Survey Implementation</b>
Questionnaire sent with cover letter to sampled patient(s) between 48 hours and six weeks after discharge.
Initiate systematic contact for all nonrespondents approximately 21 days after mailing the questionnaire.
Complete telephone follow up sequence (completed interviews obtained or maximum calls attempted for all nonrespondents) so that at least five telephone calls are attempted at different times of day, on different days of the week, and in different weeks within 21 days after initiation.
Submit final data files by the end of the quarter.

Hospitals/Survey vendors must make every reasonable effort to ensure optimal response rates by thoroughly familiarizing telephone interviewers with the study purpose, carefully supervising interviewers, retraining those interviewers having difficulty enlisting cooperation, and re-contacting reluctant respondents with different interviewers at different times.

### **Mail Protocol**

This section describes guidelines for the mail phase of the mixed mode of survey administration.

### **Production of Questionnaire and Materials**

Hospitals/Survey vendors will be provided with the HCAHPS questionnaire in English and Spanish and sample cover letters in English. Hospitals/Survey vendors should adhere to the following specifications for questionnaire and letter formatting and the production of mail materials.

## Questionnaire

The HCAHPS questionnaire contains 27 questions: questions 1-22 are referred to as the core HCAHPS questions, and questions 23-27 are the “About You” HCAHPS questions. Hospitals/Survey vendors may use the HCAHPS questionnaire as a stand-alone survey, integrated with the hospital’s existing survey, or combined with hospital-specific supplemental questions. The core HCAHPS questions (Questions 1-22) must be placed at the beginning of the survey. The About You HCAHPS questions (Questions 23-27) and hospital-specific supplemental questions can be added anywhere after the core HCAHPS questions (Questions 1-22).

Hospitals/Survey vendors have some flexibility in formatting the HCAHPS questionnaire following the guidelines described below:

- Question and answer category wording must not be changed, nor is any change permitted to the order of core HCAHPS questions (Questions 1-22).
- Questions and answer categories must remain together in the same columns and on the same pages.
- Unique identifiers are placed on the first page of the survey. The respondent’s name does not appear on the survey.

Hospitals/Survey vendors should consider the following recommendations in formatting the HCAHPS questionnaire:

- Minimum font size (10 point) readable font such as Arial.
- Margins are wide (at least 3/4 inch) and the survey has a lot of white space to enhance its readability.

Hospitals that choose to use their existing survey have three options: 1) integrate the hospital’s existing survey into the HCAHPS survey using one consistent format; 2) have a separate HCAHPS survey and hospital survey in the same mailing; or 3) send two separate mailings—one with the HCAHPS survey and another with the hospital-specific survey.

## Supplemental Questions

Hospitals/Survey vendors can add a reasonable number of hospital-specific supplemental questions to the HCAHPS survey and can include a hospital’s existing survey following the guidelines described below:

- Hospital-specific supplemental questions or a hospital’s existing survey are added after the core HCAHPS questions (Questions 1-22). The About You section (Questions 23-27) of the HCAHPS survey can be added anywhere after the core HCAHPS questions (Questions 1-22).
- Phrases can be added to transition from the HCAHPS questions to the hospital-specific supplemental questions. An example of such phrasing is as follows:

*“Now we would like to gather some additional detail on topics we have asked you about before. These items use a somewhat different way of asking for your*



*response since they are getting at a little different way of thinking about the topics.”*

Hospitals/Survey vendors should consider avoiding the following types of hospital-specific supplemental questions:

- Question(s) that poses burden to the respondent (e.g., number, length, and complexity of supplemental questions).
- Question(s) that has potential impact on responses to the HCAHPS survey.
- Question(s) that causes a person to terminate the survey (e.g., items that ask about sensitive medical or personal topics).
- Question(s) that jeopardize respondent confidentiality (e.g., items that ask for the respondent’s social security number).

### **Cover Letter**

Hospitals/Survey vendors may adapt the sample cover letters provided or compose their own by following the guidelines described below:

- Cover letter contains the name and address of the sampled respondent. “To Whom It May Concern” is not an acceptable salutation.
- Cover letter is not attached to the survey to avoid compromising confidentiality.
- Customization is acceptable, but must include language indicating the purpose of the survey, that “*Questions 1-22 in the enclosed survey are part of a national initiative by the United States Department of Health and Human Services to measure the quality of care in hospitals,*” an explanation that participation is voluntary, the hospital name, the discharge date, and a statement that the patient’s health benefits will not be affected by participation in the survey.

### **Mailing of Materials**

Hospitals/Survey vendors mail materials use the following guidelines described below:

- Self-addressed, stamped business return envelopes are enclosed in the survey envelope with the cover letter and questionnaire.
- It is suggested that all mailings be sent with first class postage or indicia to ensure delivery in a timely manner and higher response rates because first class mail is more likely to be opened.

### **Mail Data Receipt**

Survey data should be recorded in a timely manner after the hospital/survey vendor receives returned questionnaires. Hospitals/Survey vendors may use key entry or scanning to record survey data. Each process is described below. The survey management system should identify surveys that were completed in the mail portion of the mixed mode protocol.

### **Key Entry**

Hospitals’/Survey vendors’ key entry processes should incorporate the following features:

- *Unique identifier verification system:* The survey management system performs a check to ensure that the returned survey has not already been entered in the survey management system.
- *Valid range checks:* The data entry system identifies entries that are invalid or out-of-range responses.
- *Validation:* Key entered data are checked a second time by different staff to identify any discrepancies between two entries. A supervisor should reconcile any errors.

## Scanning

Hospitals'/Survey vendors' scanning software should accommodate the following:

- *Unique record verification:* The survey management system performs a check to ensure that the returned survey has not already been entered in the survey management system.
- *Valid range checks:* The software identifies invalid or out-of-range responses.

Whether the hospitals/survey vendors employ scanning or key-entry of mail questionnaires, hospitals/survey vendors should use the following decision rules that govern the appropriate actions to take to resolve common ambiguous situations. Hospitals/Survey vendors should follow these guidelines strictly to ensure standardization of data entry across hospitals:

- If a mark falls between two choices and is obviously closer to one choice than another, select the choice to which the mark is closest.
- If a mark falls equidistant between two choices, code the value for the item as “missing.” Hospitals/Survey vendors have the option of contacting the patient to ascertain the response but may not impute a response.
- If a value is missing, code it as “missing.” Hospitals/Survey vendors may contact the patient to ascertain the response but may not impute a response.
- When more than one response choice is marked, code the value as “missing” (except for item 26 in the survey).

## Quality Control Guidelines

The following guidelines are strongly suggested to avoid survey mail administration errors and to assure the deliverability of questionnaires.

- Address information is validated to ensure addresses are accurate, formatted accurately, and current. This can be accomplished through use of the National Change of Address (NCOA) and the United States Postal Service (USPS) CASS Certified Zip+4 software. Other means are also available to update addresses for accurate mailings, such as:
  - Commercial software
  - Internet search engines
- Interval checking of printed mailing pieces for:
  - Fading, smearing, and misalignment of printed materials.

- Appropriate survey contents, accurate address information, and proper postage in the survey sample packet production.
  - Assurance that all printed materials in a mailing envelope have the same unique identifier.
  - Inclusion of all respondents of a sample in a mailing.
- Seeded mailings—All mailings are sent to designated project staff in addition to the sample to check for timeliness of delivery, accuracy of address, and accuracy of the content of the mailing.

Hospitals/Survey vendors are responsible for the quality of work performed by any subcontractors employed, such as printers or fulfillment houses. Hospital/Survey vendor staff are on-site for printing of survey materials and mail production to ensure that interval checking of printed mailing pieces is carried out.

## **Telephone Protocol**

This section describes guidelines for the telephone phase of the mixed mode of survey administration. Hospitals/Survey vendors conduct at least five telephone calls to nonrespondents from the questionnaire mailing.

## **Telephone Interviewing Systems**

### **Telephone Script**

Hospitals/Survey vendors will be provided with a standardized script for the HCAHPS portion of the survey following the guidelines described below:

- Question and answer category wording is not changed nor is the order of questions for the HCAHPS core questions. (Questions 1-22).
- The hospital/survey vendor is responsible for programming the scripts and specifications into its computerized telephone interviewing system, manual data entry system, or alternative system.

## **Interviewing Systems**

Telephone survey interviewing should be conducted using a computerized telephone interviewing system or a manual (paper and pencil) data entry system. Hospitals/Survey vendors using a computerized system should program the standardized script and specifications into the telephone system. Regardless of response, all answers in the telephone interview must be recorded by the interviewer.

Two methods exist for telephone interviewing:

1. Computerized telephone interviewing system uses standardized scripts and design specifications. The hospital/survey vendor is responsible for programming the scripts and specifications into its computerized telephone interviewing software.

2. Manual data collection involves an interviewer who conducts the interview over the phone and records answers by pen or pencil on a paper survey form. Standardized scripts and design specifications should be used in manual data entry.

### Telephone Attempts

Sample respondents should be called a total of five times unless the respondent explicitly refuses to complete the survey. Hospitals/Survey vendors should follow these guidelines to reach respondents:

- Telephone attempts are made at various times of the day, on different days of the week, and in different weeks to maximize the probability that the survey vendor will contact the respondent.
- Respondents who call back after an initial contact can be scheduled for an interview or forwarded to an available interviewer.
- Interviewers should not leave messages on answering machines since this could violate a respondent's privacy.
- If, on the fifth attempt, the respondent requests to schedule an appointment to complete the survey, it is permissible to schedule that appointment and call the respondent back. If on the call back at the scheduled time, no connection with the respondent is made, then no further attempts should be made.

A telephone attempt consists of one of the following:

- The telephone rings six times with no answer.
- Interviewer gets a busy signal. When systems permit, attempts should be made to re-contact respondents with a busy signal up to three times at 20-minute intervals. This counts as one phone attempt.
- Interviewer reaches a household member and is told that the respondent is not available to come to the phone. The interviewer should not leave a message.
- Interviewer reaches the respondent but is asked to call back at a more convenient time. The interviewer should not leave a message.

Hospitals/Survey vendors should take the following steps to contact difficult to reach respondents:

- If the respondent's number is wrong, it is important to make every effort to find the correct number. If the person answering the phone knows how to reach the respondent, the new information should be used.
- If the respondent is away temporarily, he or she should be contacted upon return, provided that it is within the data collection time period.
- If the respondent does not speak the language the survey is being administered in, the interviewer should thank the respondent for his or her time and terminate the interview.
- If the respondent is temporarily ill, the interviewer should re-contact the respondent to see if there has been a recovery before the end of the data collection.
- If the respondent is unavailable for any reason, the interviewer should not conduct the interview with a proxy.

## Obtaining Telephone Numbers

Hospitals/Survey vendors should obtain telephone numbers from patient discharge records. There are various options for how to update the telephone numbers, if necessary. Hospitals/Survey vendors may have different mechanisms or strategies for obtaining correct telephone numbers, and are free to pursue their preferred approach. Potential methods for obtaining accurate phone numbers include:

- *Telematch software:* Survey vendors may elect to run commercially available software against sample files just after uploading to their survey management systems
- *Commercial software, Internet directories, Directory assistance*

## Telephone Data Receipt

Survey data should be recorded in a timely manner after the hospital/survey vendor completes surveys in the phone protocol. Hospitals/Survey vendors should link survey response data received from the interviewing system to the survey management system, regardless of which interviewing system is employed. The survey management system should identify surveys that were completed in the telephone portion of the mixed mode protocol.

1. **Computerized Telephone Interviewing System—Hospitals’/Survey vendors’** computerized telephone interviewing system should be electronically linked to the survey management system so that obtained responses from the computerized telephone interviewing system are automatically added to the survey management system.
2. **Manual Data Collection—Hospitals/Survey vendors** using manual data entry (paper questionnaires) to collect survey data over the phone should follow the guidelines below for linking survey responses to the survey management system. Key entry or scanning may be used:
  - **Key Entry**
    - *Unique record verification:* The survey management system performs a check to ensure that the respondent has not already been entered in the survey management system through the computerized telephone interviewing system.
    - *Validation:* Key entered data are checked a second time by different staff to identify any discrepancies between two entries. A supervisor should reconcile any errors.
  - **Scanning**
    - *Unique record verification:* Hospitals’/Survey vendors’ survey management system performs a check to ensure that the respondent has not already been entered in the survey management system through the computerized telephone interviewing system.

## Quality Control Guidelines

Hospitals/Survey vendors should employ guidelines in proper interviewer training, monitoring, and oversight, as described below.

## **Interviewer Training**

Consistent monitoring of interviewers' work is essential to assure standardized and accurate results. Properly trained and supervised interviewers ensure that standardized, nondirective interviews are conducted.

The interviewers conducting the telephone survey must be trained before beginning interviewing. Training must ensure that interviewers are reading questions as worded in the script, using non-directive probes, and are maintaining a neutral and professional relationship with the respondent.

## **Telephone Monitoring and Oversight**

A telephone interviewer monitoring and evaluation program featuring silent monitoring should be implemented during the telephone phase of the protocol. Hospitals/Survey vendors should monitor at least ten percent of all interviews through silent monitoring of interviewers using the computerized telephone interviewing system software or similar system. For paper and pencil interviewers, supervisors should observe at least ten percent of all interviews where silent monitoring is not an option.

Additionally, supervisors should provide feedback to interviewers about their performance and work and on any areas for improvement. Feedback should be provided to interviewers as soon as possible following a monitoring session.

Staff found to be consistently unable to follow the script verbatim, employ proper probes, remain objective and courteous, be understood, or operate the computer competently should be identified and retrained or replaced.

## **ACTIVE INTERACTIVE VOICE RESPONSE (IVR)**

### **SURVEY ADMINISTRATION**

#### **Overview**

The fourth option for administering the HCAHPS survey is Active Interactive Voice Response (IVR). This section describes guidelines for the IVR mode of survey administration. The survey protocol is designed to achieve, on average, a 40 percent response rate.

Data collection for sampled discharged patients should be initiated anywhere between 48 hours and six weeks after discharge and should be closed out for a particular respondent by six weeks following the first call attempt. Telephone contacts are made between the hours of 9 AM and 9 PM respondent time. A live telephone interviewer should be available to introduce the respondent to the purpose of the call and to get his or her permission for IVR survey administration. Note: No proxy responses are allowed.

The basic tasks and timing for conducting the HCAHPS survey using the IVR mode of survey administration are summarized below.

<b>IVR Survey Implementation</b>
Initiate systematic contact to sampled patient(s) between 48 hours and six weeks after discharge.
Complete IVR sequence (completed interviews obtained or maximum calls attempted for nonrespondents) so that at least five telephone calls are attempted at different times of day, on different days of the week, and in different weeks within 42 days after initiation.
Submit final data files by the end of the quarter.

Hospitals/Survey vendors must make every reasonable effort to ensure optimal response rates, such as thoroughly familiarizing interviewers with the study purpose, carefully supervising interviewers, retraining those interviewers having difficulty enlisting cooperation, and re-contacting reluctant respondents with different interviewers at different times to solicit interest in participating in the survey.

#### **IVR Interviewing Systems**

##### ***Questionnaire***

The HCAHPS questionnaire contains 27 questions: questions 1-22 are referred to as the core HCAHPS questions, and questions 23-27 are the “About You” HCAHPS questions. Hospitals/Survey vendors may use the HCAHPS questionnaire as a stand-alone survey, integrated with the hospital’s existing survey, or combined with hospital-specific supplemental questions. The core HCAHPS questions (Questions 1-22) must be placed at the beginning of the survey. The About You HCAHPS questions (Questions 23-27) and hospital-specific supplemental questions can be added anywhere after the core HCAHPS questions (Questions 1-22).

##### **IVR Script**

Hospitals/Survey vendors will be provided with a standardized script for the HCAHPS portion of the IVR survey.

- Question and answer category wording may not be changed, nor the order of questions for the HCAHPS core questions changed (Questions 1-22)
- The hospital/survey vendor is responsible for programming the scripts and specifications into its IVR interviewing software.

### **Supplemental Questions**

Hospitals/Survey vendors can add a reasonable number of hospital-specific supplemental questions to the HCAHPS survey and can include a hospital's existing survey by following the guidelines described below:

- Hospital-specific supplemental questions or a hospital's existing survey may be added after the core HCAHPS questions (Questions 1-22). The "About You" section (Questions 23-27) of the HCAHPS survey can be added anywhere after the core HCAHPS questions (Questions 1-22).
- Phrases can be added to make a smooth transition from the HCAHPS questions to the hospital-specific supplemental questions. An example of such phrasing is as follows:

*"Now we would like to gather some additional detail on topics we have asked you about before. These items use a somewhat different way of asking for your response since they are getting at a little different way of thinking about the topics."*
- A standardized IVR script will be developed and used by the hospital/survey vendor for the hospital's existing survey or hospital-specific supplemental questions.

Hospitals/Survey vendors should consider avoiding the following types of hospital-specific supplemental questions:

- Question(s) that poses burden to the respondent (e.g., number, length, and complexity of supplemental questions)
- Question(s) that has potential impact on responses to the HCAHPS survey
- Question(s) that causes a person to terminate the survey (e.g., items that ask about sensitive medical or personal topics)
- Question(s) that jeopardize respondent confidentiality (e.g., items that ask for the respondent's social security number)

### **Interviewing System**

IVR survey interviewing should be conducted using a computerized telephone interviewing system. Hospitals/Survey vendors should program the standardized HCAHPS script and survey specifications into the IVR system. IVR technology must be capable of recording and storing respondent answers provided through touch tone keypad response. Any other type of IVR response is considered an exception and the hospital/survey vendor must go through the exceptions process in order to employ such systems.

A key feature of the active IVR methodology is the use of the live interviewer. Hospitals/Survey vendors are required to use live interviewers to:



- Introduce the respondent to the active voice response system and to get their consent to proceed with data collection in this manner.
- Provide customer support for interviews in progress when a respondent wishes to speak to an interviewer for assistance.
- Either triage the respondent to a computerized telephone interviewing system, or conduct the HCAHPS interview when a respondent does not wish to continue with the IVR interview.

## IVR Attempts

Sample respondents should be called a total of **five** times unless the respondent completes the survey or explicitly refuses to complete the survey. Hospitals/Survey vendors should follow these guidelines to reach respondents:

- IVR telephone attempts are made at various times of the day, on different days of the week, and in different weeks to maximize the probability that the interviewer will contact the respondent.
- Respondents who call back after an initial IVR interviewer contact can be scheduled for an interview or forwarded to an available IVR interviewer.
- IVR interviewers must not leave messages on answering machines since this could violate a respondent's privacy.
- If, on the fifth attempt, the respondent requests to schedule an appointment to complete the survey, it is permissible to schedule that appointment and call the respondent back. If, on the call back at the scheduled time, no connection with the respondent is made, then no further attempts should be made.

An IVR telephone attempt consists of one of the following:

- The telephone rings six times with no answer.
- Interviewer gets a busy signal. When systems permit, attempts should be made to re-contact respondents with a busy signal up to three times at 20-minute intervals. This counts as one phone attempt.
- Interviewer reaches a household member and is told that the respondent is not available to come to the phone.
- Interviewer reaches the respondent but is asked to call back at a more convenient time.

Hospitals/Survey vendors should take the following steps to contact difficult to reach respondents:

- If the respondent's number is wrong, it is important to make every effort to find the correct number. If the person answering the phone knows how to reach the respondent, the new information should be used.
- If the respondent is away temporarily, he or she should be contacted upon return provided that it is within the data collection time period.

- If the respondent does not speak the language the survey is being administered in, the interviewer should thank the respondent for his or her time and terminate the interview.
- If the respondent is temporarily ill, the interviewer should re-contact the respondent to see if there has been a recovery before the end of the data collection.
- If the respondent is unavailable for any reason, the interviewer must not conduct the interview with a proxy.

## Obtaining Telephone Numbers

Hospitals/Survey vendors should obtain telephone numbers from patient discharge records. There are various options for how to update the telephone numbers, if necessary. Hospitals/Survey vendors may have different mechanisms or strategies for obtaining correct telephone numbers, and are free to pursue their preferred approach. Potential methods for obtaining accurate phone numbers include:

- *Telematch software:* Survey vendors may elect to run commercially available software against sample files just after uploading to their survey management systems
- *Commercial software, Internet directories, Directory assistance*

## Data Receipt

### IVR

Survey data should be recorded in a timely manner after the hospital/survey vendor completes a survey using IVR. Hospitals'/Survey vendors' IVR systems should be electronically linked to the survey management system so that obtained responses from IVR are automatically added to the survey management system.

### Telephone

For surveys initiated in IVR, but completed in the computerized telephone interviewing system or by paper and pencil over the phone, the survey management system must also link those completed surveys. Hospitals/Survey vendors should follow the appropriate data receipt rules for the computerized telephone interviewing system or manual data entry:

1. Computerized Telephone Interviewing System—Hospitals'/Survey vendors' computerized telephone interviewing system should be electronically linked to the survey management system so that obtained responses from the computerized telephone interviewing system are automatically added to the survey management system.
2. Manual Data Collection—Hospitals/Survey vendors using manual data entry (paper questionnaires) to collect survey data over the phone should follow the guidelines below for linking survey responses to the survey management system. Key entry or scanning may be used as follows:
  - Key Entry
    - *Unique record verification:* The survey management system performs a check to ensure that the respondent has not already been entered in the survey management system through the computerized telephone interviewing system.

- *Validation:* Key entered data are checked a second time by different staff to identify any discrepancies between two entries. A supervisor must reconcile any errors.
- Scanning
  - *Unique record verification:* Hospitals'/Survey vendors' survey management systems perform a check to ensure that the respondent has not already been entered in the survey management system.

## Quality Control Guidelines

Hospitals/Survey vendors should employ guidelines in proper interviewer training, monitoring, and oversight, as described below.

### Interviewer Training

Consistent monitoring of interviewers' work is essential to assure standardized and accurate results. Properly trained and supervised interviewers ensure that standardized, nondirective interview introductions are conducted.

The interviewers initiating the IVR survey must be trained before beginning interviewing. Training must ensure that interviewers are reading introductions as worded in the script, and are maintaining a neutral and professional relationship with the respondent.

### IVR Monitoring and Oversight

An IVR interviewer monitoring and evaluation program featuring silent monitoring should be implemented during the survey. Hospitals/Survey vendors should monitor at least ten percent of all IVR interviewer contacts through silent monitoring of interviewers.

Additionally, supervisors provide feedback to interviewers about their performance and work with interviewers on any areas for improvement, such as refusal avoidance. Feedback should be provided to interviewers as soon as possible following a monitoring session.

Staff found to be consistently unable to follow the script verbatim, remain objective and courteous, be understood, or operate the IVR system competently, should be identified and retrained or replaced.

